

Claims

[c1] Claims

1. A pedestrian safety device for automotive vehicles comprising:
an openable and re-closeable hood covering an engine bay, said hood having a leading edge and a trailing edge; a latch mechanism being operable to releasably latch said hood to the vehicle body; and
a hinge having
an inclining guide track affixed to the vehicle body and extending rearwards within said vehicle;
an actuator member arranged traversely inside an upper forward region of the vehicle and the ends of the actuator member being slideably hinged in the inclining guide track and the ends of said actuator member being slideably hinged in a respective inclining guide track extending rearwards within said vehicle and being fixed to the vehicle body;
a lifting member arranged for vertical sliding with respect to the vehicle body, the lifting member is arranged below the hood such that the first lifting member will be brought to uplift the hood upon said hinges carrying it being translated up said inclining guide tracks as a result

of a frontal collision impact on said actuator member causing it to be displaced rearwards within said vehicle.

- [c2] 2. The pedestrian safety device according to claim 1, further comprising:
 - a deployment means for releasing the lifting member in a vertical direction within the hinge when the vehicle is operated within predetermined velocity ranges.
- [c3] 3. The pedestrian safety device according to claim 1 further comprising:
 - a cooling package moveably affixed to the hinge and the actuator member such that the cooling package will be brought to rotate away from the front end of the vehicle and down into the engine bay of said vehicle as a result of a frontal collision impact on said actuator member
- [c4] 4. A pedestrian safety device according to claim 3, further comprising:
 - an additional guide track having lower delimiters which are arranged to break away upon a downward impact to the hood and the hinge, allowing the hinge and the hood to move downwards as a result of such impact.
- [c5] 5. A pedestrian safety device according to claim 1 further comprising:

a pre-loaded spring device in communication with the actuator member, the pre-loaded spring device being arranged between the hood and the vehicle body in the region of the trailing edge of the hood, wherein the pre-loaded spring device includes a lifting member being operative to uplift the hood under predetermined conditions.

- [c6] 6. A pedestrian safety device according to claim 5, further comprising
a plurality of activation wires connecting the lifting member and the pre-loaded spring device, the plurality of activation wires each having a respective first end which are arranged to be translated upon activation of the lifting member and a second end of which are connected to the respective pre-loaded spring device, the plurality of activation wires being operable to transmit a signal to activate the pre-loaded spring devices upon such translation of the wires.
- [c7] 7. A pedestrian safety device according to claim 5, wherein the pre-loaded spring device includes an additional lifting member and the pre-loaded spring device is arranged to be carried by a break-away member such that the pre-loaded spring device moves in a downward vertical direction upon impact to the hood also allowing said additional lifting members to move downwards as a

result of such impact.

- [c8] 8. A pedestrian safety device according to claim 1, wherein the actuator member is incorporated in a grille opening reinforcement assembly of said vehicle.